

What is claimed is:

A method of using a bipolar junction transistor as a local oscillator in a satellite down converter to eliminate second and third harmonic interference between two local oscillators, comprising serial connection of a mixer between a low-noise amplifier and an intermediate frequency amplifier in said satellite down converter, and serial connection of a bipolar junction transistor (BJT) to said mixer, whereby said satellite down converter may have reduced phase noise and reduced power consumption, and second and third harmonic interference at the same frequency range is eliminated.